

TRANSMITTAL LETTER TO THE UNITED STATES

DESIGNATED/ELECTED OFFICE (DO/EO/US)

CONCERNING A FILING UNDER 35 U.S.C. 371

112740-164

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

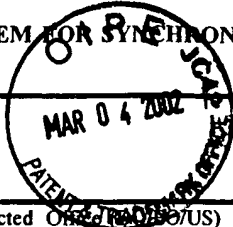
INTERNATIONAL APPLICATION NO.
PCT/DE99/02805INTERNATIONAL FILING DATE
03 September 1999PRIORITY DATE CLAIMED
03 September 1998

TITLE OF INVENTION

METHOD AND RADIO COMMUNICATION SYSTEM FOR SYNCHRONIZING SUBSCRIBER STATIONS

APPLICANT(S) FOR DO/EO/US

Michael Benz et al.

COPY OF PAPERS
ORIGINALLY FILED

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ A copy of the International Search Report (PCT/ISA/210).
8. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ Certificate of Mailing by Express Mail
20. ☒ Other items or information:

Submission of Drawings - Figures 1-5 on four sheets

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**TRANSMITTAL LETTER
(General - Patent Pending)**

Docket No.
112740-164

In Re Application Of: Benz et al.

Serial No.
09/786,608

Filing Date
June 29, 2001

Examiner
Unknown

Group Art Unit
2681

Title: **METHOD AND RADIO COMMUNICATION SYSTEM FOR SYNCHRONIZING SUBSCRIBER STATIONS**

TO THE ASSISTANT COMMISSIONER FOR PATENTS:


Transmitted herewith is:

Correction to Filing Receipt; Copy of Filing Receipt (2 pages); Copy of Notice of Acceptance; Copy of the Transmittal letter and pages of Claims in the specification (6 pages); and postcard

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in the above identified application.

- ☒ No additional fee is required.
- ☐ A check in the amount of _____ is attached.
- ☒ The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. **02-1818** as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of _____
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.


Signature

Dated: February 21, 2002

Robert W. Connors
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Chicago, IL 60690-1135

I certify that this document and fee is being deposited on 2/21/02 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20230


Signature of Person Mailing Correspondence

Robert J. Buccieri

Typed or Printed Name of Person Mailing Correspondence

cc:



JC07 Rec'd PCT/PTO 04 MAR 2002

PG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Michael Benz et al.

Attorney Docket No.: 112740-164

Serial No.: 09/786,608

Group Art Unit: 2681

Filed: June 29, 2001

Examiner:

For: METHOD AND RADIO COMMUNICATION SYSTEM FOR SYNCHRONIZING
SUBSCRIBER STATIONS

ASSISTANT COMMISSIONER FOR PATENTS

BOX OIPE

WASHINGTON, D.C. 20231

REQUEST FOR CORRECTED FILING RECEIPT

1. Attached is a copy of the official filing receipt received from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested.
2. There is an error in that the following data is:
[X] incorrectly entered

and/or

[] omitted

[] Inventor

[] Applicants

[] Title

[] Attorney Docket No.

[] Serial Number

[X] Total Claims and/or Independent Claims

[X] Other

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in that the filing receipt should read as follows:

The correct filing date should be 6/29/01;

The total number of Claims is 13; and

The total number of independent Claims is 2.

Robert W. Connors (Reg. No. 46,639)

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Attorneys for Applicant

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UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20231
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/786,608	03/05/2001	2681	990	112740-164	4	13	2

CONFIRMATION NO. 1450

Bell Boyd & Lloyd
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Chicago, IL 60690

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FILING RECEIPT



OC000000006278188

Date Mailed: 07/10/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

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BELL, BOYD & LLOYD
INTELLECTUAL PROPERTY DOCKET

JUL 13 2001 TK

ATTY: WEV

DOCKET #: 112740-164

Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/DE99/02805 09/03/1999

Foreign Applications

GERMANY 198 40 232.5 09/03/1998

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

Title

Method and radio communication system for synchronizing subscriber stations

Preliminary Class
455

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Data entry by : ORDENEZ, MARTA

Team : OIPE

Date: 07/10/2001



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ORIGINALLY FILEDCommissioner for Patents, Box PCT
United States Patent and Trademark Office
Washington, D.C. 20231
www.uspto.gov

U.S. APPLICATION NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/786608	BENZ	M 112740-164

INTERNATIONAL APPLICATION NO.

PCT/DE99/02805

WILLIAM E VAUGHAN
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P O BOX 435
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I.A. FILING DATE	PRIORITY DATE
03 SEP 99	03 SEP 98

DATE MAILED:

09 JUL 2001

**NOTIFICATION OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C. 371
AND 37 CFR 1.494 OR 1.495**

1. The applicant is hereby advised that the United States Patent and Trademark Office in its capacity as ☐ a Designated Office (37 CFR 1.494), ☒ an Elected Office (37 CFR 1.495), has determined that the above-identified international application has met the requirements of 35 U.S.C. 371, and is **ACCEPTED** for national patentability examination in the United States Patent and Trademark Office.

2. The United States Application Number assigned to the application is shown above and the relevant dates are:

29 JUN 01
DATE OF RECEIPT OF
35 U.S.C. 371(c)(1), (c)(2) and (c)(4) REQUIREMENTS

29 JUN 01
DATE OF RECEIPT OF ALL
35 U.S.C. 371 REQUIREMENTS

A Filing Receipt (PTO-103X) will be issued for the present application in due course. **THE DATE APPEARING ON THE FILING RECEIPT AS THE "FILING DATE" IS THE DATE ON WHICH THE LAST OF THE 35 U.S.C. 371 REQUIREMENTS HAS BEEN RECEIVED IN THE OFFICE. THIS DATE IS SHOWN ABOVE.** The filing date of the above-identified application is the international filing date of the international application (Article 11(3) and 35 U.S.C. 363). Once the Filing Receipt has been received, send all correspondence to the Group Art Unit designated thereon.

3. ☒ A request for immediate examination under 35 U.S.C. 371(f) was received on 05 MAR 01 and the application will be examined in turn.

4. The following items have been received:

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After page 14, cancel lines 1-4, and substitute the following centered heading therefor:

--ABSTRACT OF THE DISCLOSURE--

On page 14, line 6, cancel "According to the invention," and substitute
5 therefor --A method and radio communication system for synchronizing subscriber stations, wherein--.

On page 14, line 21, cancel "by means of" and substitute therefor --via--.

On page 14, cancel line 27.

In the Claims:

10 On page 11, cancel line 1, and substitute the following left-hand justified heading therefor:

--We Claim As Our Invention:--

Please cancel claims 1-13, without prejudice, and substitute the following claims therefor:

15 14. A method for synchronizing subscriber stations in a radio communication system, the method comprising the steps of:

allocating a time slot for transmitting at least one synchronization sequence to a number of base stations;

allocating to adjacent base stations a different time offset with respect to a
20 beginning of the time slot for transmitting the at least one synchronization sequence, wherein the time offset corresponds to at least one of a choice of at least one synchronization sequence and a sequence of a number of synchronization sequences;

receiving, at a subscriber station, the synchronization sequence; and

performing, via the subscriber station, a time synchronization via both a
25 time of reception of the synchronization sequence and at least one of the detected synchronization sequence designating the time offset and the detected sequence of the number of synchronization sequences.

15. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, further comprising the step of:
transmitting two synchronization sequences in one time slot.

5 16. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 15, further comprising the step of:
predetermining a time gap between the two synchronization sequences in the one time slot.

10 17. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, the method further comprising the step of:
transmitting further information by the base station by a choice of at least one of the synchronization sequences and the sequence of a number of
15 synchronization sequences.

18. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the further information relates to at least one of a frame synchronization, midambles, and spread-spectrum
20 codes used by the base station.

19. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the further information relates to information on the configuration of a control channel.
25

20. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 19, wherein the information on configuration relates to at least one of a variable number of time slots and spread spectrum codes.

21. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 17, wherein the coding of the further information extends over a number of time slots due to at least one of the choice of synchronization sequences and the sequence of synchronization sequences.
- 5
22. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are unmodulated orthogonal gold codes.
- 10
23. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the time slots are a part of a TDD transmission arrangement with broadband channels, a number of time slots per frame being used for the synchronization.
- 15
24. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are transmitted in time slots in which information of a control channel is additionally transmitted.
- 20
25. A method for synchronizing subscriber stations in a radio communication system as claimed in claim 14, wherein the synchronization sequences are transmitted at lower power compared with other transmissions of the base station.
- 25
26. A radio communication system, comprising:
a plurality of base stations for transmitting at least one synchronization sequence;
a controller which assigns a time slot and a different time offset with respect to a beginning of the time slot for transmitting the synchronization sequence to

adjacent base stations, the time offset corresponding to at least one of a choice of at least one synchronization sequence and a sequence of a number of synchronization sequences;

5 a subscriber station for receiving and evaluating the synchronization sequence; and

a synchronization part allocated to the subscriber station which performs a time synchronization via a time of reception of the synchronization sequence and at least one of a detected synchronization sequence designating the time offset and a detected sequence of a number of synchronization sequences.

10

REMARKS

The present amendment makes editorial changes and corrects typographical errors in the specification in order to conform the specification to the requirements of the United States Patent practice. No new matter is added thereby. Original
15 claims 1-13 have been canceled in favor of new claims 14-26. Claims 14-26 have been presented solely because the revisions by bracketing and underlining which would have been necessary in claims 1-13 in order to present those claims in accordance with preferred United States Patent practice would have been too extensive, and thus would have been too burdensome. The amendment is intended
20 for clarification purposes only and not for substantial reasons related to patentability pursuant to 35 U.S.C. §§101, 102, 103 or 112. Indeed, the cancellation of claims 1-13 does not constitute an intent on the part of the Applicants to surrender any of the subject matter of claims 1-13.